1: Linton E-5 (1926-27) 1933 FY8 Tanala FY8

On the western side of the divide the forest is lower and more open, resembling moderately heavy second growth timber in the eastern United States. In the bottoms grow clumps of tall raffia palms. Forest and open grass lands meet in an irregular line. This line is the real western boundary of the Tanala country. A few of their villages are in the open, but hardly one is out of sight of the forest.

On the eastern side of the divide there is daily rain at all seasons. On the west there is a seasonal change, comparable to that in the plateau, the rainiest months being December to February. Because of the altitude the climate is temperate throughout most of the Tanala country. During the winter season it becomes unpleasantly cold, with frost in the low places and heavy morning fogs that chill one to the bone. Even in summer it is rarely uncomfortably hot.

Throughout the whole of the Tanala country there is a multitude of streams and rivers. These are mostly swift, with many falls and rapids so that canoe travel is unprofitable. There are a few small lakes. In the bottoms of some valleys one encounters rather extensive swamps, which become impassable during the rainy season.

From the point of view of natural resources, the region is not especially tempting. Wild food is scarce and hard to get and agriculture involves heavy labor in cutting and burning the forest. Grazing is rather poor and cattle do not thrive in such a wet climate. In opposition to this, the forest affords an abundance of good timber, far beyond the local needs, raffia, rubber and other products, and there are considerable deposits of iron ore. The latter are neither rich enough nor extensive enough to be of much value for export purposes. There are also deposits of other valuable minerals, crystal and gold, but these meant nothing to the first settlers. Although there are traces of ancient gold working in many parts of the Tanala territory, the natives do not seem to have mined the gold themselves.

Perhaps the greatest gift which the region offers to settlers is a relative immunity from attack. The terrain makes large-scale invasion almost impossible. Moreover, the country was fairly healthy prior to the opening up of regular communication with the coast. People driven from the plateau could settle in the higher forest without fear of the deadly coast fevers.

1: Linton E-5 (1926-27) 1933 FY8 Tanala FY8

apprenticeship. A boy who becomes interested in the trade will hang about the smith's workshop, blowing the bellows for him and doing other minor tasks. Finally he will be allowed to help with the forging and may accompany the smith on his travels. When he thinks that he knows the trade, he will set up in business for himself. No regular payment is made to the teacher, but if the new smith prospers, it is customary for him to visit his former master, thank him publicly, and present him with an ox. 326

Every smith has a house and land in some particular village and spends most of his time there. During the slack season between harvest and the next planting, the smiths travel about repairing old implements and forging new ones. When a man is in need of the smith's services, he first bargains with him, then, when the price has been fixed, takes him into his house and feeds him until the task is completed. Smiths seem to be much more numerous among the Ikongo than among the Menabe.

The stonecutters are mostly Betsileo living among the Tanala. They go where their services are required and are similarly boarded during the work. 324

As far as I could learn, there are no ceremonial observances or taboos connected with any industry. There seem to be no charms to give success in occupations, with the possible exception of house building, although I was unable to get a satisfactory check on this for metal working. 777

METAL WORKING

According to Tanala traditions, the aborigines of their territory were ignorant of the use of metal, but the ancestors of all the invading gentes were familiar with iron at the time they entered the region. The next metal to become known to them was silver. There are no known deposits of silver ore in Madagascar and the metal was certainly obtained from Arabs or Europeans. Nevertheless, the Tanala have no legends of its introduction. It has been thoroughly incorporated into the culture, figuring in the invocations to the gods and in a number of rites and ceremonies. In general, it seems to occupy the place that gold occupies among the tribes of the plateau and west coast. 325 135 [439]

Gold, in the form of dust or small nuggets, is found throughout much of the Tanala territory, but the Tanala themselves make no use of it and seem to have no beliefs in regard to it. It does not figure in any ceremony, and is mentioned in only one or two invocations.

1: Linton E-5 (1926-27) 1933 FY8 Tanala FY8

325 135 It seems probable that the Tanala were ignorant of its value, if not of its existence, until they were instructed by foreign traders. A few abandoned gold workings have been found by prospectors, and one or two caches of gold dust, but there is no way of determining their age.

325 439 Copper is still almost unknown, the only objects in use being a few bracelets obtained from the Betsileo. Brass, in the form of ornamental knife hilts and bracelets, is used by the Ikongo. They do not manufacture these articles, but buy them from the Bara, who are clever brass casters. The metal itself is of European origin and most of the knife hilts are made from old cartridge shells melted down.

135 326 438 The most important iron deposits are in the territory of the Tanala Ikongo. There are also deposits in the territory of the Zafimaniry, among the Menabe. There are a great number of smiths in this gens and they formerly carried on a regular trade in metal and finished implements with their neighbors. No account of Ikongo iron working was obtained, but their methods probably are the same as those of the Zafimaniry.

325 The ore used by the Zafimaniry is hematite, with a rich iron content. It occurs in the soil in the form of small pebbles and is simply washed preparatory to smelting. If the pieces are more than ¾ inch in diameter, they are broken up with hammers. The furnace is of the simplest sort (Fig. 10, c). A hole 2 to 2½ feet across and 18 inches to 2 feet deep is dug in the hard clay soil, with a sloping groove or trench entering it from one side, to accommodate a pipe leading to a bellows. The air pipe enters the pit 3 to 4 inches above the bottom. Sometimes a rim of clay 3 to 4 inches high is built around the furnace.

The smelting is done with charcoal, made by the ordinary European method. A layer of ignited charcoal is put in the bottom of the pit, then a layer of ore, then more charcoal and more ore until the furnace is filled. Two men work the bellows in shifts, keeping up a steady draft, and more charcoal is added as the mass burns down. The smelting requires about five hours. The molten iron collects in the bottom of the pit forming an ingot called *voromby*. This is drawn out and hammered as soon as it solidifies. Because of the small size of the furnace only a little iron can be smelted at a time. The metal is soft and malleable and the native smiths say that it is much easier to work than European iron.

The bellows employed in smelting and forging is typically Malayan (Fig. 10, a). It consists of two wooden cylinders from